

APPENDIX B

SUPPLEMENTAL LIST OF ACUTE TOXICITY TEST SPECIES

TEST ORGANISM		TEST TEMP (°C)	LIFE STAGE
FRESHWATER SPECIES: VERTEBRATES - WARMWATER			
<i>Cyprinella leedsi</i> ¹	Bannerfin shiner	25	1-14 days
<i>Lepomis macrochirus</i>	Bluegill sunfish	20,25	" "
<i>Ictalurus punctatus</i>	Channel catfish	"	" "
FRESHWATER SPECIES: INVERTEBRATES - COLDWATER			
<i>Pteronarcys spp.</i>	Stoneflies*	12	larvae
<i>Pacifastacus leniusculus</i>	Crayfish*	"	juveniles
<i>Baetis spp.</i>	Mayflies*	"	nymphs
<i>Ephemerella spp.</i>	"	"	"
FRESHWATER SPECIES: INVERTEBRATES - WARMWATER			
<i>Hyaella spp.</i>	Amphipods	20,25	juveniles
<i>Gammarus lacustris</i>	"	"	"
<i>G. fasciatus</i>	"	"	"
<i>G. pseudolimnaeus</i>	"	"	"
<i>Hexagenia limbata</i>	Mayflies	"	nymphs
<i>H. bilineata</i>	"	"	"
<i>Chironomus spp.</i>	Midges	"	larvae

*Stoneflies, crayfish, and mayflies may have to be field collected and acclimated for a period of time to ensure the health of the organisms and that stress from collection is past. Species identification must be verified.

¹ Test conditions for *Cyprinella leedsi* and *Holmesimysis costata* are found in Table 14 and Table 19, respectively, in Section 9.

SUPPLEMENTAL LIST OF ACUTE TOXICITY TEST SPECIES (CONTINUED)

TEST ORGANISM		TEST TEMP (°C)	SALINITY (‰)	LIFE STAGE
MARINE AND ESTUARINE SPECIES: VERTEBRATES - COLDWATER				
<i>Parophrys vetulus</i>	English sole	12	32-34	1-90 days
<i>Citharichys sitigmaeus</i>	Sanddab	"	"	" "
<i>Pseudopleuronectes americanus</i>	Winter flounder	"	"	post metamorphosis
MARINE AND ESTUARINE SPECIES: VERTEBRATES - WARMWATER				
<i>Paralichthys dentatus</i>	Flounder	20,25	32-34	1-90 days
<i>P. lethostigma</i>	"	"	"	" "
<i>Fundulus simillis</i>	Killifish	"	20-32	1-30 days
<i>Fundulus heteroclitus</i>	Mummichog	"	25-32	" "
<i>Lagodon rhomboides</i>	Pinfish	"	20-32	1-90 days
<i>Orthipristis chrysoptera</i>	Pigfish	"	15-30	" "
<i>Leostomus xanthurus</i>	Spot	"	10-30	" "
<i>Gasterosteus aculeatus</i>	Threespine stickleback	"	20-32	1-30 days
<i>Atherinops affinis</i>	Topsmelt	21	10-30	7-15 days
MARINE AND ESTUARINE SPECIES: INVERTEBRATES - COLDWATER				
<i>Pandalus jordani</i>	Oceanic shrimp	12	25-32	juvenile
<i>Strongylocentrotus droebachiensis</i>	Green sea urchin	"	32-34	gametes/embryo
<i>Strongylocentrotus purpuratus</i>	Purple sea urchin	"	"	" "
<i>Dendraster excentricus</i>	Sand dollar	"	"	" "
<i>Cancer magister</i>	Dungeness crab	"	"	juvenile
<i>Holmesimysis costata</i> ²	Mysid	"	"	1-5 days
MARINE AND ESTUARINE SPECIES: INVERTEBRATES - WARMWATER				
<i>Callinectes sapidus</i>	Blue crab	20,25	10-30	juvenile
<i>Palaemonetes pugio</i>	Grass shrimp	"	10-32	1-10 days
<i>P. vulgaris</i>	" "	"	"	" "
<i>P. intermedius</i>	" "	"	"	" "
<i>Penaeus setiferus</i>	White shrimp	"	20-32	post-larval
<i>Penaeus duorarum</i>	Pink shrimp	"	"	" "
<i>Penaeus aztecus</i>	Brown shrimp	"	"	" "
<i>Crangon septemspinosa</i>	Sand shrimp	"	25-32	" "
<i>Mysidopsis almyra</i>	Mysid	"	10-32	1-5 days
<i>Neomysis americana</i>	"	"	"	" "
<i>Metamysidopsis elongata</i>	"	"	"	" "
<i>Crassostrea virginica</i>	American oyster	"	20-32	embryo
<i>Crassostrea gigas</i>	Pacific oyster	"	25-32	"
<i>Arbacia punctulata</i>	Purple sea urchin	"	32-34	gametes/embryo

² Test conditions for *Holmesimysis costata* are found in Table 19.

APPENDIX C

DILUTOR SYSTEMS

Two proportional dilutor systems are illustrated: the solenoid valve system, and the vacuum siphon system.

1. Solenoid and Vacuum Siphon Dilutor Systems

The designs of the solenoid and vacuum siphon dilutor systems incorporate features from devices developed by many other Federal and state programs, and have been shown to be very versatile for on-site bioassays in mobile laboratories, as well as in fixed (central) laboratories. The Solenoid Valve system is fully controlled by solenoids (Figures 1, 2, and 3), and is preferred over the vacuum siphon system. The Vacuum Siphon system (Figures 1, 4, and 5), however, is acceptable. The dilution water, effluent, and pre-mixing chambers for both systems are illustrated in Figures 6, 7, and 8. Both systems employ the same control panel (Figure 9).

If in the range-finding test, the LC50 of the effluent falls in the concentration range, 6.25-100%, pre-mixing is not required. The pre-mixing chamber is bypassed by running a TYGON[®] tube directly from the effluent in-flow pipe to chamber E-2 (see Figures 3 and 5), and Chambers E-1 and D-1 and the pre-mixing chamber are deactivated.

The dilutor systems described here can also be used to conduct tests of the toxicity of pure compounds by equipping the control panel with an auxiliary power receptacle to operate a metering pump to deliver an aliquot of the stock solution of the pure compound directly to the mixing chamber during each cycle. In this case, chamber E-1 is de-activated and chamber D-1 is calibrated to deliver a volume of 2000 mL, which is used to dilute the aliquot to the highest concentration used in the toxicity test.

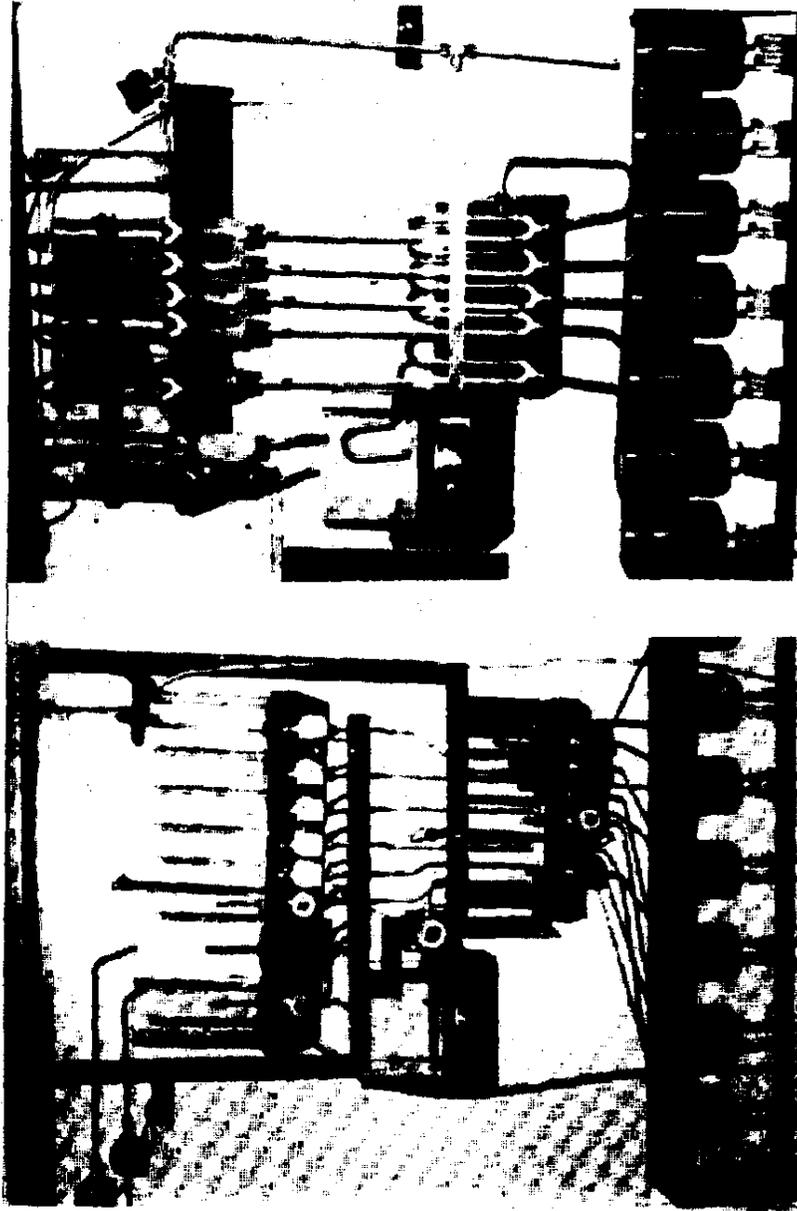


Figure 1. Photographs of the solenoid valve system (left), and the vacuum siphon system (right).

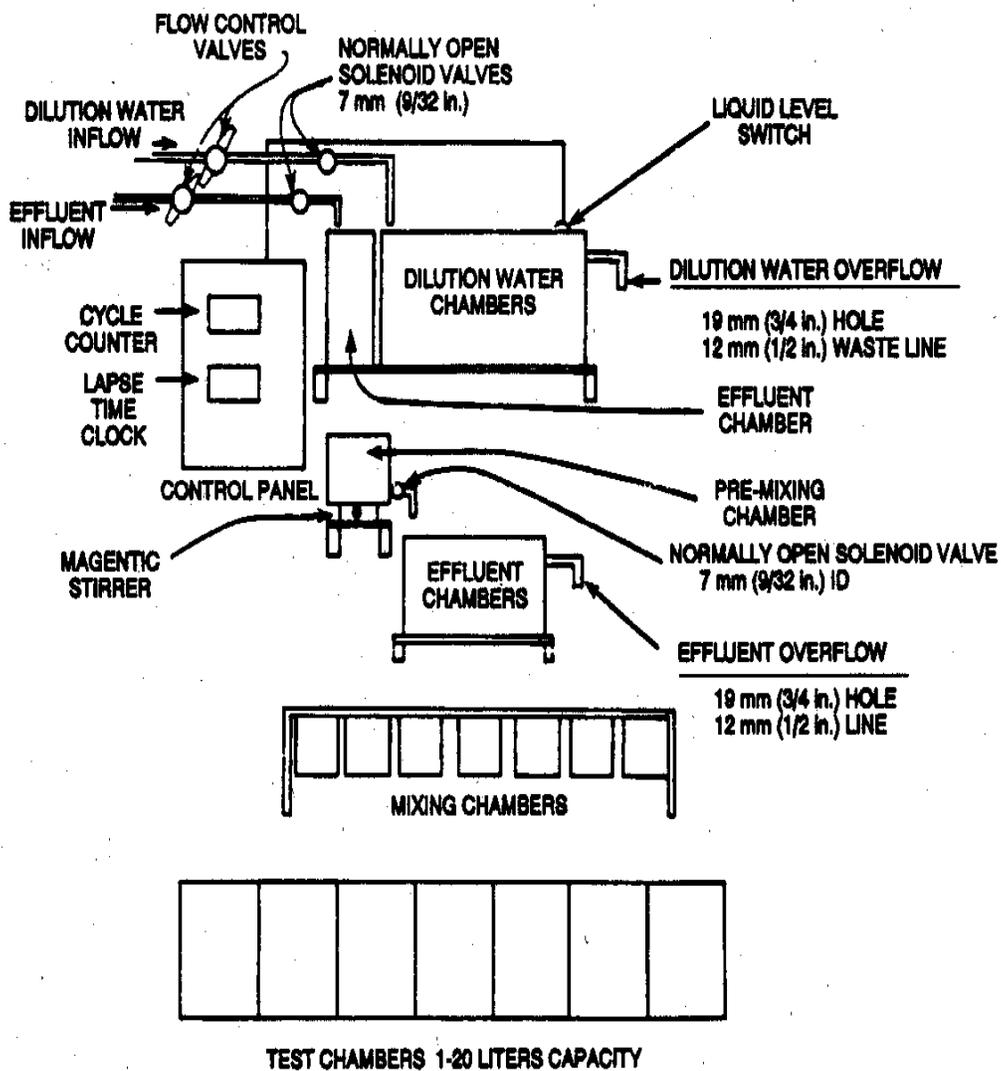
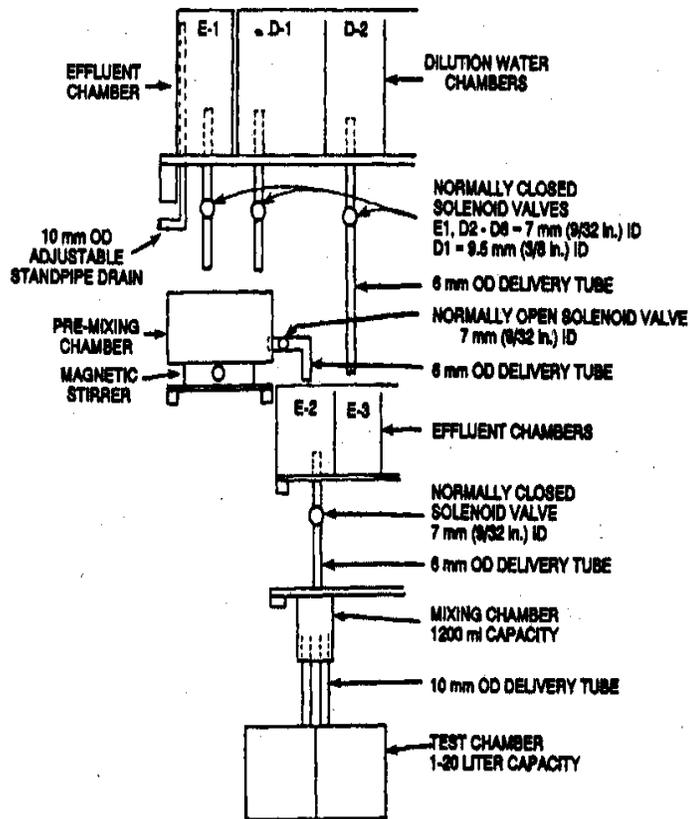


Figure 2. Solenoid valve dilutor system, general diagram (not to scale).



NOTE: WHEN 100% EFFLUENT IS USED AS THE HIGHEST EFFLUENT CONCENTRATION, E-1, D-1, AND THE PRE-MIXING CHAMBER ARE BYPASSED BY CONNECTING A TYGON TUBE TO THE EFFLUENT INFLOW, AND RUNNING IT DIRECTLY TO E-2. IN THIS CASE, SOLENOIDS FOR E-1 AND D-1, AND THE PRE-MIXING CHAMBER ARE DISCONNECTED. D-2 + E-3 = 80% EFFLUENT; D-3 + E-4 = 65% EFFLUENT, ETC.

Figure 3. Solenoid valve dilutor system, detailed diagram (not to scale).

SOLENOID SYSTEM EQUIPMENT LIST

1. Dilator Glass.
2. Stainless Steel Solenoid Valves
 - a. 3, normally open, two-way, 55 psi, water, 1/4" pipe size, 9/32" orifice size, ASCO 8262152, for incoming effluent and dilution water pipes and mixing chamber pipe.
 - b. 1, normally closed, two-way, 15 psi, water, 3/8" pipe size, 3/8" orifice size, ASCO 8030865, for D-1 chamber evacuation pipe.
 - c. 12, normally closed, two-way, 36 psi, water, 1/4" pipe size, 9/32" orifice size. ASCO 8262C38, for remaining dilution chambers (D2-D6) and effluent chamber (E1-E6) evacuation pipes.
3. Stainless steel tubing, seamless, austenitic, 304 grade for freshwater and 316 grade for saline water.
 - a. 10 ft of 3/8" OD, 0.035" wall thickness, for dilution water and effluent pipes.
 - b. 60 ft of 1/4" OD, 0.035" wall thickness, for dilution water and effluent pipes.
 - c. 1 ft of 3/4" OD, 0.035" wall thickness, for standpipe in D1 chamber.
4. Swagelok tube connectors, stainless steel.
 - a. 4, male tube connectors, male pipe size 1/4", tube OD 3/8".
 - b. 2, male tube connectors, male pipe size 1/2", tube OD 3/8".
 - c. 26, male tube connectors, male pipe size 1/4", tube OD 1/4".
 - d. 2, male tube connectors, male pipe size 3/8", tube OD 3/8".
 - e. 2, male adaptor, tube to pipe, male size 1/2", tube OD 3/8".
5. 7, 1200 mL stainless steel beakers.
6. Several lbs each of Neoprene stoppers, sizes 00, 0, and 1; 1 lb of size 5.
7. 14 - aquarium (1-20 liters).
8. Magnetic stirrer.
9. 2 - PVC ball valves, 1/2" pipe size.
10. Dilutor control panel - see Fig. 9 and equipment list.
11. Plywood sheeting, exterior grade: one - 4' x 8' x 3/4", one - 4' x 8' x 1/2".
12. Pineor redwood board, 1" x 8", 20 ft.
13. Epoxy paint, 1 gal.
14. Assorted wood screws, nails, etc.
15. 25 ft - 14" ID, TEFLON[®] tubing, to connect the mixing chambers to the test chambers.

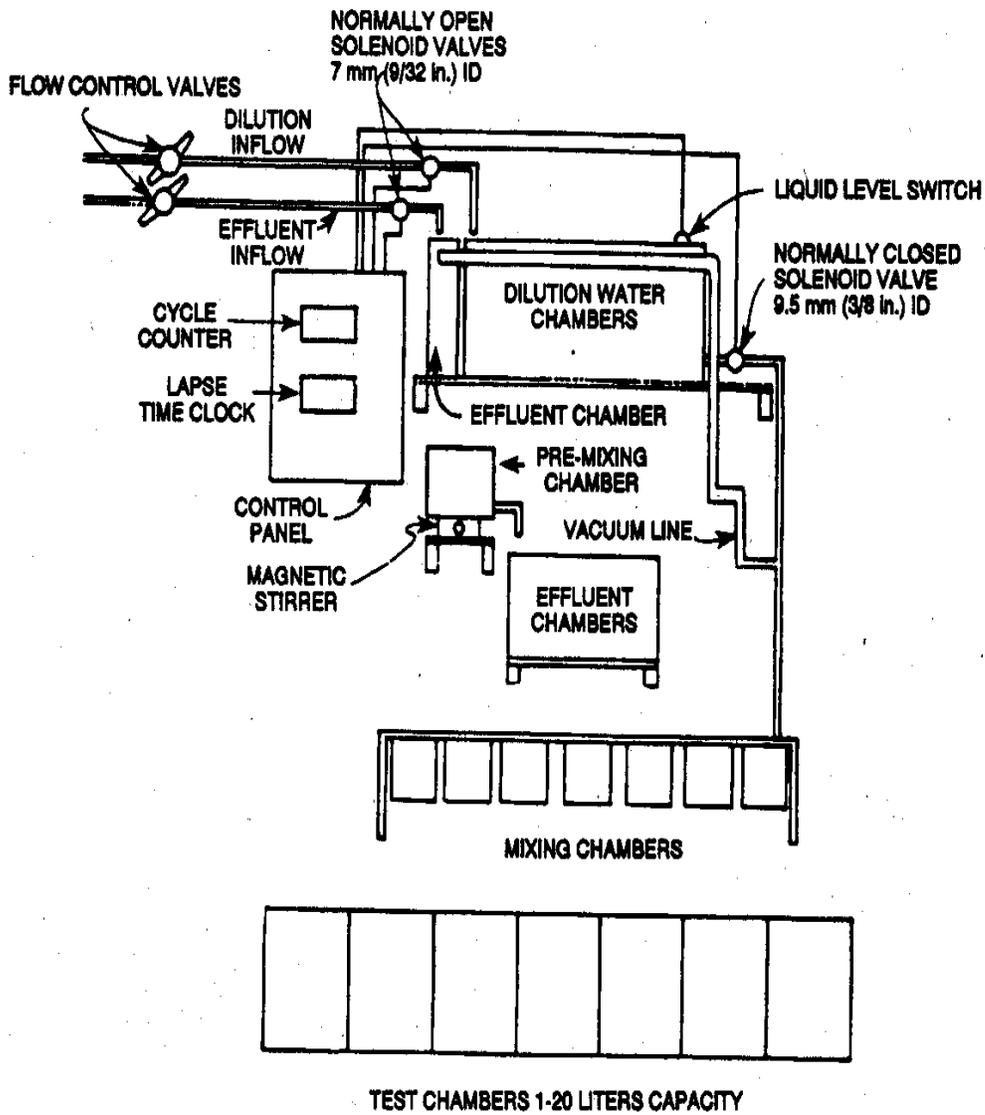


Figure 4. Vacuum siphon dilutor system, general diagram (not to scale).

VACUUM SIPHON SYSTEM EQUIPMENT LIST

1. Dilutor Glass.
2. Stainless steel solenoid valves.
 - a. 2, normally open, two-way, 55 psi, water, 1/4" pipe size, 9/32" orifice size, ASCO 8262152, for incoming effluent and dilution water pipes.
 - b. 2, normally closed, two-way, 15 psi, water, 3/8" pipe size, 3/8" orifice size, ASCO 8030865, for dilution water chamber D-6 and effluent chamber E-2.
3. Stainless steel tubing, seamless, austenitic, 304 grade for freshwater and 316 grade for saline water.
 - a. 60 ft of 3/8" OD, 0.035" wall thickness, for dilution water and effluent pipes.
 - b. 20 ft of 5/16" OD, 0.035" wall thickness, for standpipes in mixing chambers.
 - c. 1 ft of 3/4" OD, 0.035" wall thickness, for standpipe in D1 chamber.
4. Swagelok tube connectors, stainless steel.
 - a. 4, male tube connectors, male pipe size 1/4", tube OD 3/8".
 - b. 2, male tube connectors, male pipe size 3/8", tube OD 3/8".
 - c. 2, male adaptor, tube to pipe, male pipe size 1/2", tube OD 3/8".
 - d. 2, male tube connectors, male pipe size 1/2", tube OD 3/8".
5. 7, 1,200 mL stainless steel beakers.
6. Several lbs each of Neoprene stoppers, sizes 00, 0, and 1; 1 lb of size 5.
7. 14 - aquarium (1-20 liters).
8. Magnetic stirrer.
9. 2, PVC Ball valves, 1/2" pipe size.
10. Dilutor control panel equipment - see Fig. 9 and equipment list.
11. 7, 120 mL NALGENE[®] bottles.
12. 3 ft, 1-in-2 aluminum bar, for siphon support brackets.
13. Stainless steel set screws, box of 50, for securing SS tubing in siphon support brackets.
14. Stainless steel hose clamps, box of 10, size #4 or 5, (need 3 boxes).
15. 6, NALGENE[®] T's, 5/16" OD.
16. 12, TYGON[®] Y connectors, 3/8" I.D.
17. TYGON[®] tubing, 3/8" OD, 10 ft.
18. Plywood sheeting, exterior grade: one - 4' x 8' x 3/4", one - 4' x 8' x 1/2".
19. Pine or redwood board, 1" x 8", 20 ft.
20. Epoxy paint, 1 gal.
21. Assorted wood screws, nails, etc.
22. 25 ft of 5/16" ID, TEFLON[®] tubing, to connect the mixing chambers to the test chambers.

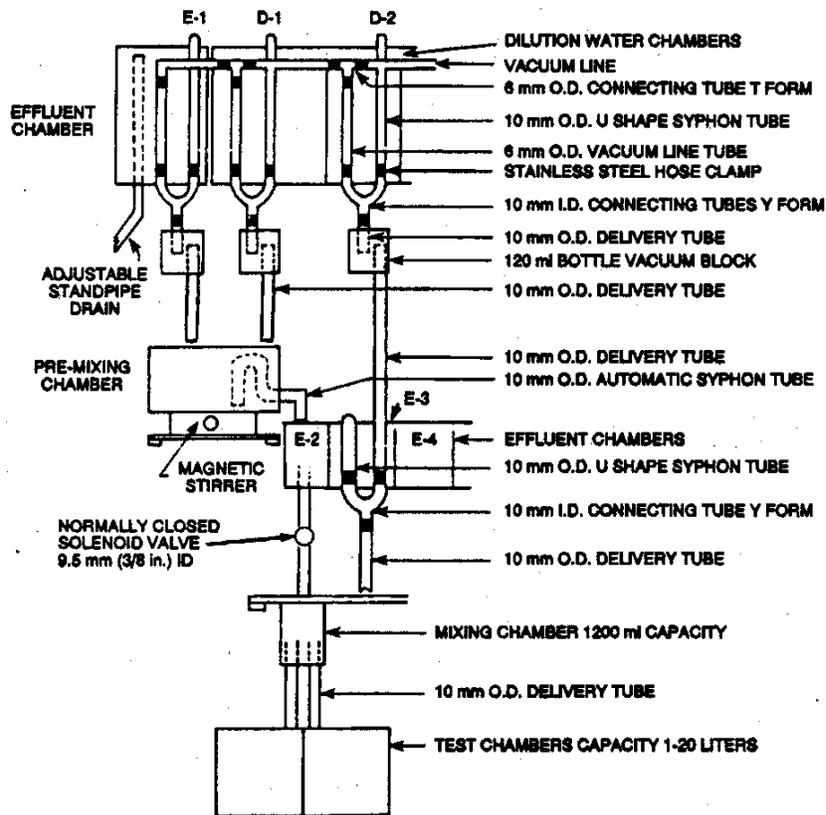
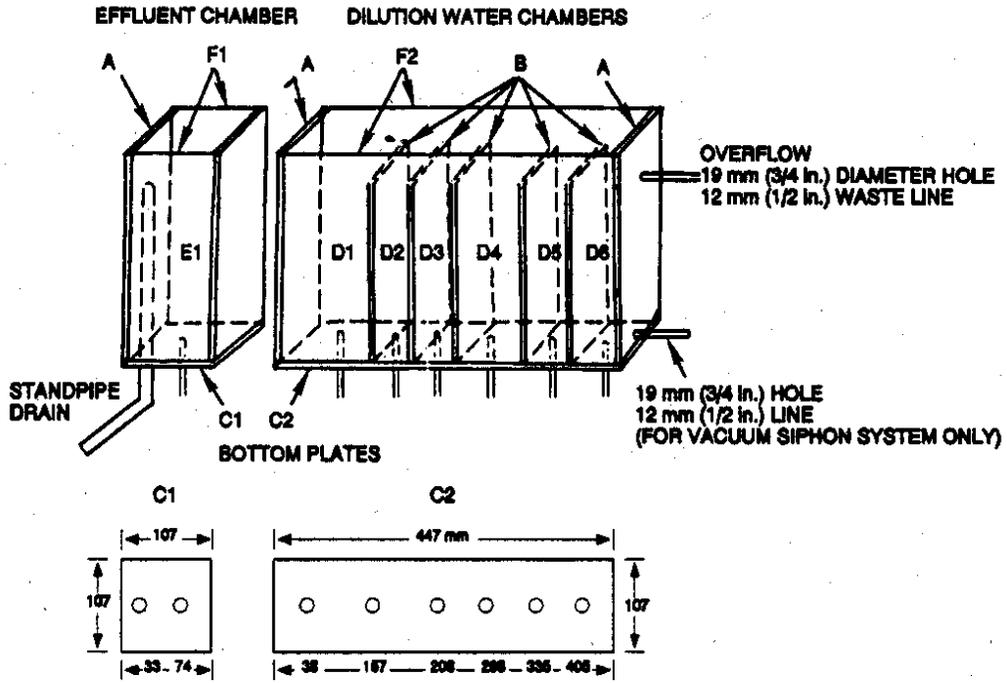


Figure 5. Vacuum siphon dilutor system, detailed diagram (not to scale).



DRAIN HOLES IN BOTTOM PLATE (C1 AND C2) SHOWN FOR SOLENOID VALVE DILUTOR SYSTEM. FOR VACUUM SIPHON DILUTOR SYSTEM, DRAIN HOLE IS REQUIRED ONLY FOR CHAMBER E1.

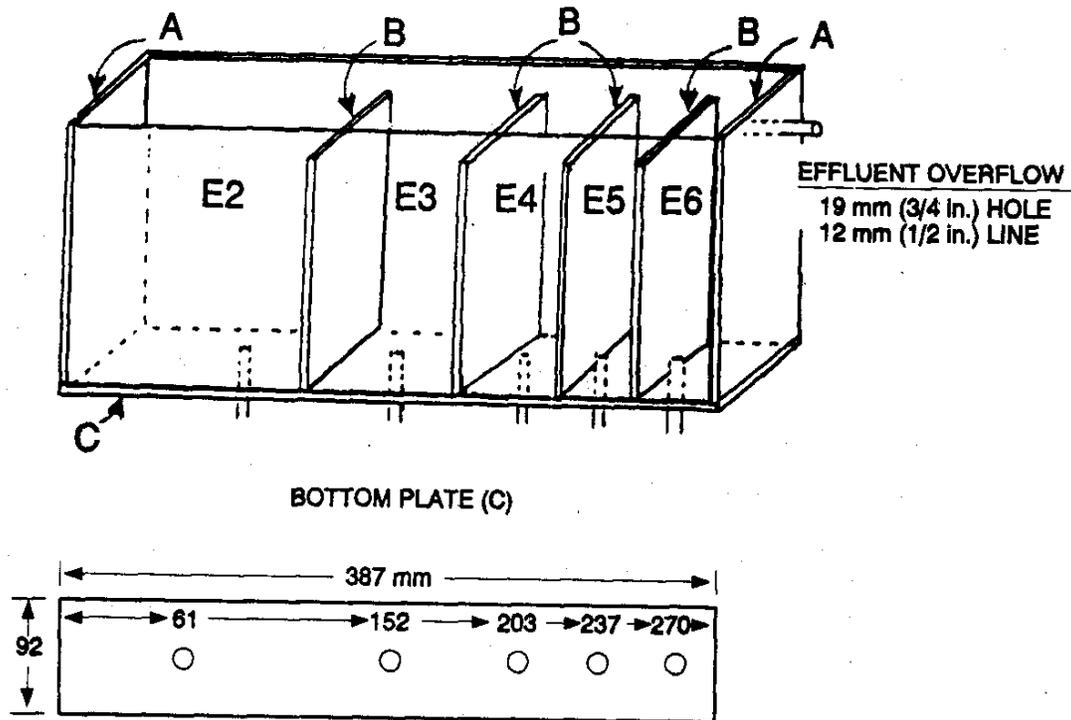
INDIVIDUAL PART SIZE AND NUMBER OF PIECES USING 6 mm (1/4 in.) PLATE GLASS. NOTE: 1.6 mm (1/16 in.) No. 304 GRADE (FOR FRESH WATER) OR No. 316 GRADE (FOR SALINE WATER) STAINLESS STEEL MAY BE SUBSTITUTED FOR GLASS.

	LENGTH	WIDTH	NO. PIECES (16)
A:	251 mm	95 mm	4 (END PLATES)
B:	208 mm	95 mm	5 (PARTITIONS)
C1:	107 mm	107 mm	1 (BOTTOM PLATE FOR E1)
C2:	447 mm	107 mm	1 (BOTTOM PLATE FOR D1-D6)
F1:	107 mm	251 mm	2 (FRONT AND BACK PANELS FOR E1)
F2:	447 mm	251 mm	2 (FRONT AND BACK PANELS FOR D1-D6)

INSIDE CELL MEASUREMENTS AND APPROXIMATE VOLUMES

	WIDTH	LENGTH	HEIGHT	VOLUME
E1:	95 mm	95 mm	251 mm	2365 mL
D1:	125 mm	95 mm	200 mm	2375 mL
D2:	40 mm	95 mm	200 mm	760 mL
D3:	50 mm	95 mm	200 mm	950 mL
D4:	60 mm	95 mm	200 mm	1140 mL
D5:	60 mm	95 mm	200 mm	1140 mL
D6:	70 mm	95 mm	200 mm	1330 mL

Figure 6. Effluent and dilution water chambers (not to scale).



DRAIN HOLES IN BOTTOM PLATE (C) SHOWN FOR SOLENOID VALVE DILUTOR SYSTEM ONLY. FOR VACUUM SIPHON DILUTOR SYSTEM, A DRAIN HOLE IS REQUIRED ONLY FOR CHAMBER E2.

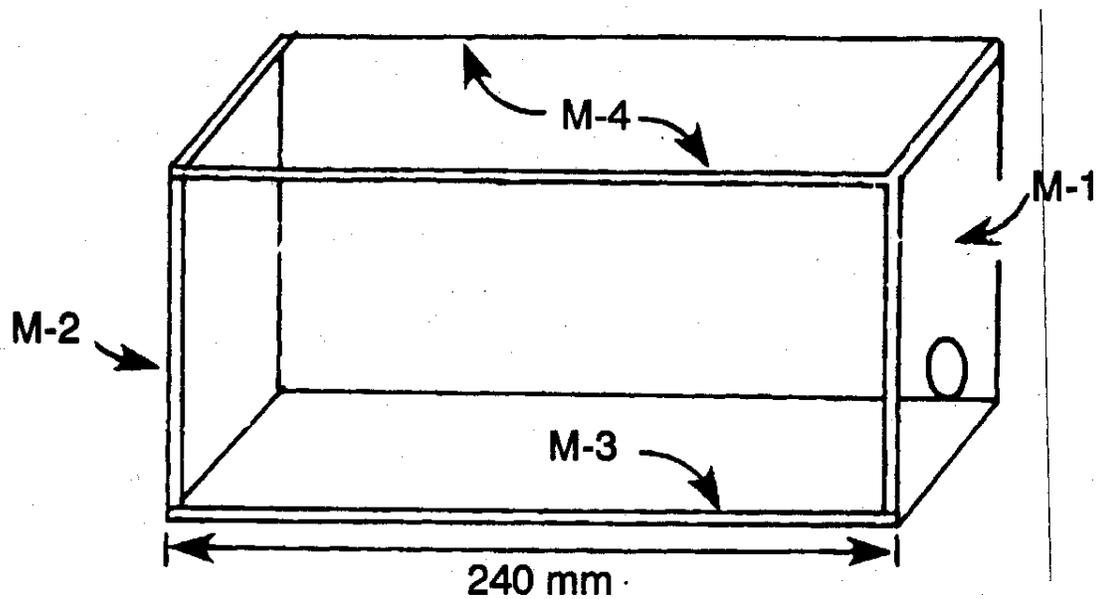
INDIVIDUAL PART SIZE AND NUMBER OF PIECES USING A 6 mm (1/4 in.) PLATE GLASS ARE SHOWN BELOW. NOTE: 1/16 in. No. 304 (FOR FRESH WATER) OR No. 316 STAINLESS STEEL (FOR SALINE WATER) MAY BE SUBSTITUTED FOR GLASS.

	LENGTH	WIDTH	NO. PIECES (9)
A	180 mm x	80 mm	= 2 (END PLATES)
B	155 mm x	80 mm	= 4 (PARTITIONS)
C	296 mm x	92 mm	= 1 (BOTTOM PLATE)
D	296 mm x	180 mm	= 2 (FRONT AND BACK PLATES)

INSIDE CHAMBER MEASUREMENTS AND APPROXIMATE VOLUMES.

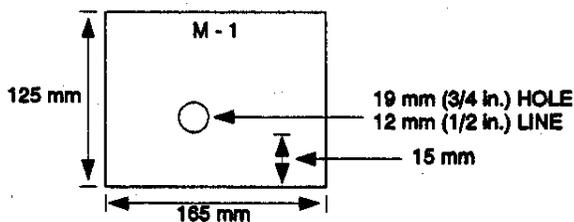
	WIDTH	LENGTH	HEIGHT	VOLUME
E2:	110 mm x	80 mm	x 155 mm	= 1364 mL
E3:	60 mm x	80 mm	x 155 mm	= 744 mL
E4:	30 mm x	80 mm	x 155 mm	= 372 mL
E5:	30 mm x	80 mm	x 155 mm	= 372 mL
E6:	30 mm x	80 mm	x 155 mm	= 372 mL

Figure 7. Effluent chambers (not to scale).



SIDE VIEW

END VIEW



**INDIVIDUAL PART SIZE AND NUMBER OF PIECES USING
6 mm (1/4 in.) PLATE GLASS. APPROXIMATE CAPACITY
4360 mL.**

M-1	125 mm	x	153 mm	-	1 (END PLATE, WITH HOLE)
M-2	125 mm	x	153 mm	-	1 (END PLATE)
M-3	240 mm	x	165 mm	-	1 (BOTTOM PLATE)
M-4	240 mm	x	125 mm	-	2 (SIDE PLATES)

Figure 8. Pre-mixing chamber (not to scale).

DILUTOR CONTROL PANEL EQUIPMENT LIST*

Designation	CKT Description	Manufacturer
A ₁	Encapsulated amplifier	Cutler Hammer 13535H98C
CTR-1	Cycle counter	Redington #P2-1006
ET	Elapsed time indicator	Conrac #636W-AA H&T
F ₁	Input power fuse	Little fuse 342038
J ₁	Receptacle	Amphenol 91PC4F
J ₂	Aux A.C. output jack	Stand. 3-prong AC Rept.
J ₃	Main input power cord	Stand. 3-prong AC male plug
L ₁	Fill indicator light	Dialco 95-0408-09-141
L ₂	Emptying indicator light	Dialco 95-0408-09-141
L.S.	Liquid level sensor (Dual Sensing Probe)	Cutler Hammer 13653H2
P ₁	Plug	Amphenol 91MC4M
S ₁	On-off main power switch (spst)	Cutler Hammer 7580 K7
S ₂	On-off aux power switch (spst)	Cutler Hammer 7580 K7
SJ ₁	Solenoid	(See Solenoid and Vacuum System equipment lists)
SJ ₂	"	" " "
SJ ₃	"	" " "
SJ ₄ -SJ ₆	Additional Solenoids for Solenoid Valve System	" " "
TDR-1	Time delay relay	Dayton 5x829
TDR-2	Aux time delay relay	Dayton 5x829

*Consult local electric supply house.

APPENDIX D

PLANS FOR MOBILE TOXICITY TEST LABORATORY

D.1. TANDEM-AXLE TRAILER

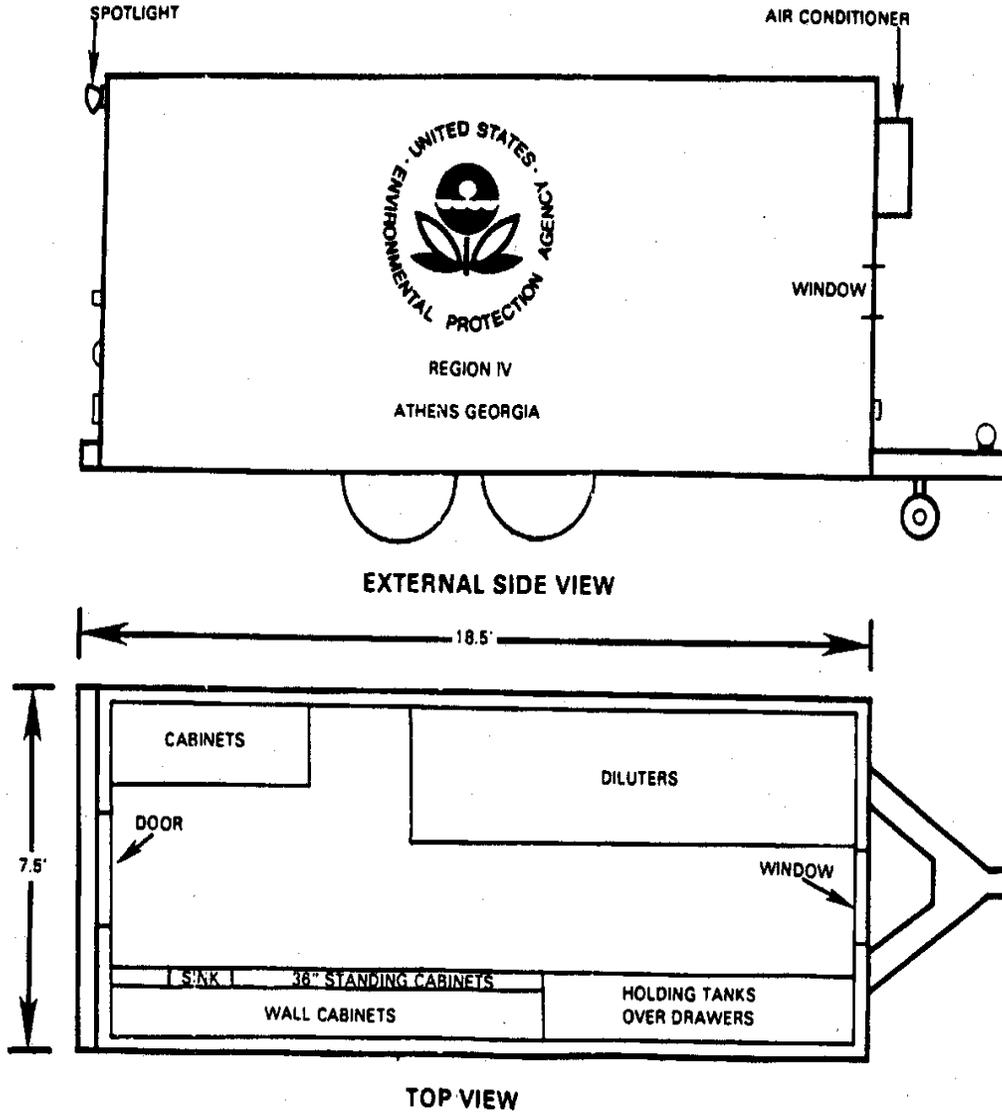


Figure 1. Mobile bioassay laboratory, tandem axle trailer. Above - external side view; below - internal view from above.

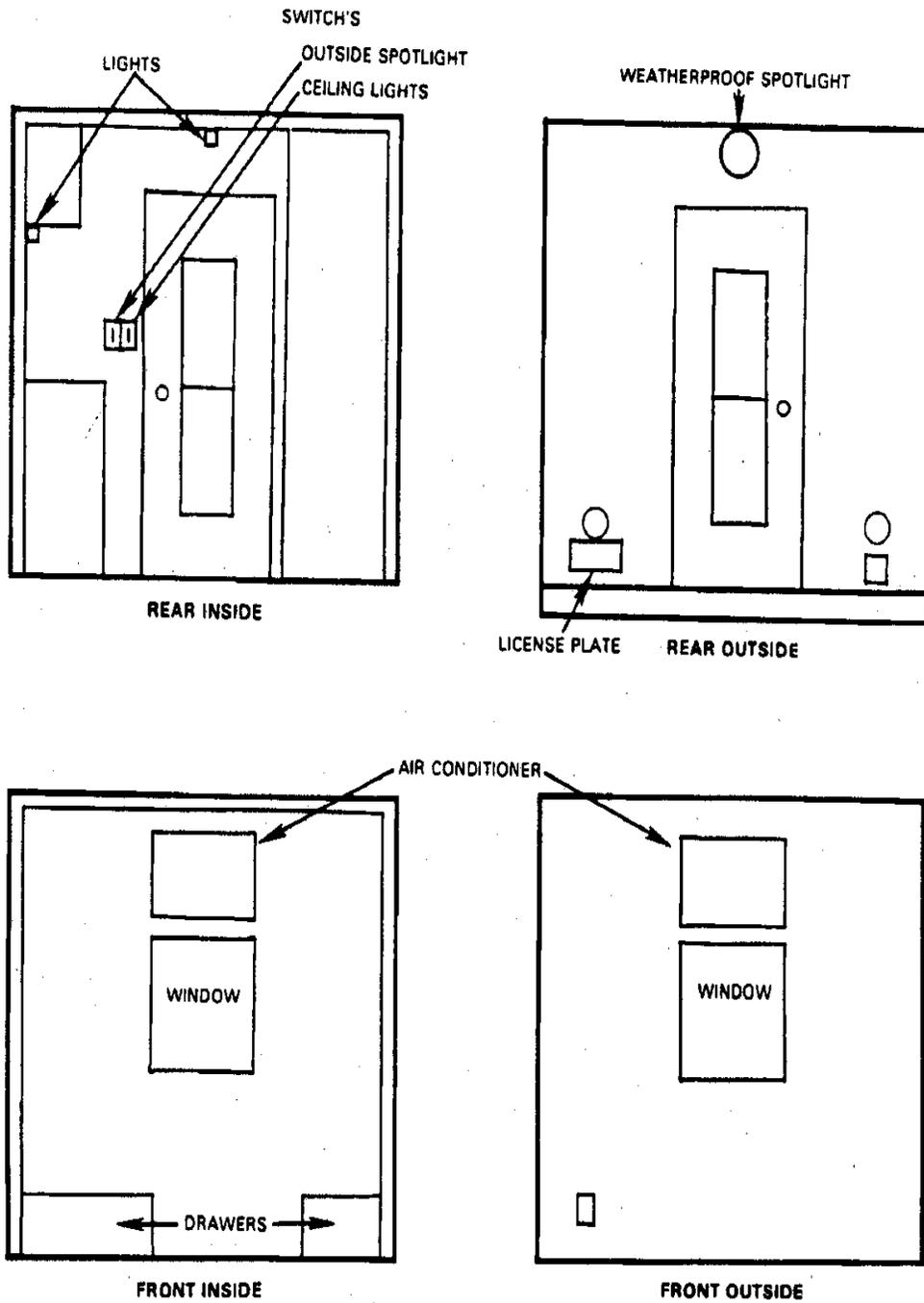


Figure 2. Mobile bioassay laboratory, tandem-axle trailer, external and internal end views.

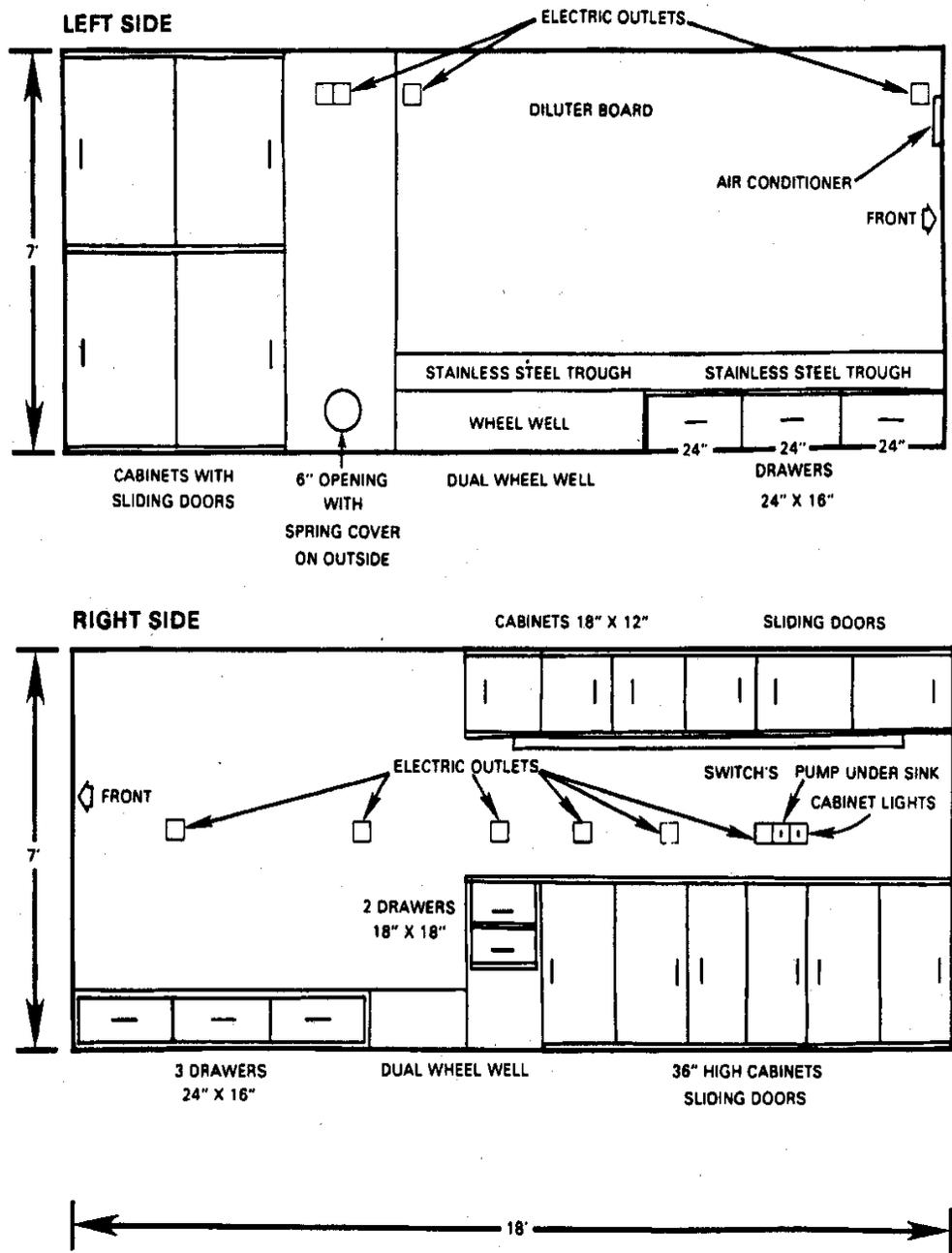


Figure 3. Mobile bioassay laboratory, tandem-axle trailer, internal views of side walls.

APPENDIX D

PLANS FOR MOBILE TOXICITY TEST LABORATORY

D.2. FIFTH WHEEL TRAILER

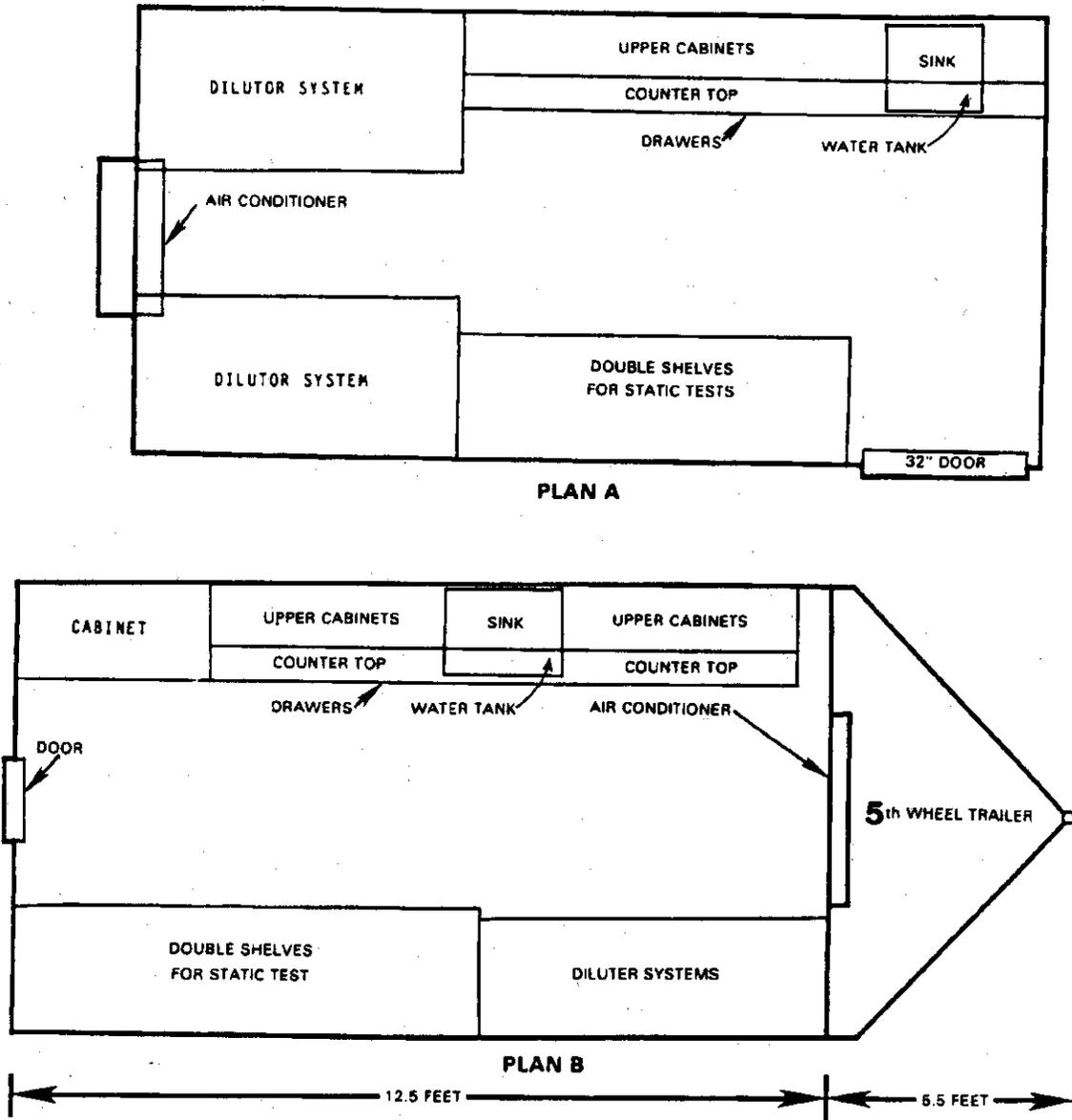


Figure 4. Mobile bioassay trailer, fifth-wheel trailer, internal view from above.

APPENDIX E

CHECK LISTS AND INFORMATION SHEETS

E.1. TOXICITY TEST FIELD EQUIPMENT LIST

Truck

Boards
 Cinder blocks
 Drums: 500 gal nalgene
 55 gal metal - diesel fuel
 22 gal
 Gas can 5 gal
 Jacks
 Jumper cables
 Oil
 Pumps: (2) Homelite
 Hoses & couplings
 Shovels
 Spare tires (trailer, generator)

Brine shrimp eggs
 Broom
 Brushes (wash)
 Buckets
 Camera
 Chlorine kit (w/chem)
 Cleanser
 Clip board (lg, sm)
 Cork borer set
 Culture dishes (200 mL, *Daphnia*)
 Daphnia food
 Data sheets: Bioassay (static)
 Bioassay (flow-thru)
 Dilutor volume delivery
 Calibrator delivery sheet
 Daily events log

Trailer

Acetone
 Aerators (battery operated)
 Air line: Clamps
 Aerators (battery operated)
 Air line: Clamps
 Stones
 Tubing
 Valves

 Alcohol
 Aluminum foil
 Alkalinity analysis (0.02 N H₂SO₄)
 Boots: safety
 wading
 Batteries D cell
 Beakers: 150 mL nalgene
 200 mL glass (3 boxes)
 Bottles: D.O.
 wash
 Sample
 VOA vials
 500 mL plastic
 Glass organic
 Qt. w/teflon liner

Dish pan
 Dish rack
 Dissolved oxygen:
 KCL membrane solution
 Membranes
 Meter (YSI)
 Probes
 Reagent: MnSO₄
 Alkaline azide
 H₂SO₄
 0.0375 Na thiosulfate

 Starch
 Distilled H₂O
 Emergency road kit
 Enamel pans (lg, sm)
 Erlenmeyer flasks: 500 mL (2)
 1000 mL
 2000 mL

 Extension cords
 Fire extinguisher
 First aid kit
 Fish nets, (lg, sm)
 Flash light
 Generator: Oil
 Filter - fuel
 Funnel
 Grease gun (wheels)
 Credit card
 Lock/key
 Siphon hose

E.1. TOXICITY TEST FIELD EQUIPMENT LIST (CONT.)

- Glass cutter
- Gloves (plastic)
- Graduated cylinders:
 - 25 mL, 50 mL, 100 mL
 - 250 mL, 500 mL, 1000 mL, 2000 mL
- Ground wire & rod
- Hand soap
- Hard hats
- Hardness analysis:
 - Buffer
 - EDTA
 - indicator
- HCl (20%)
- Heaters:
 - Aquarium
 - Space
- Hose:
 - Clamps
 - Connectors
- Ice chests
- Jars:
 - 750 mL (4 boxes)
 - 3 gal (glass) (1)
 - 5 gal (glass) (1)
 - Sample jugs (2)
- Kimwipes (lg, sm)
- Lab coats (2)
- Level
- Light 110 V
- Log book
- Magnetic stirrers:
 - Lighted
 - Other
- Mop
- Paper towels
- Parachute cord
- Parafilm
- Pencils, pens
- pH:
 - Meters, Orion
 - Meters, corning
 - Buffers, 4,7,10
 - Probes (extras)
- Pipets:
 - Bulbs
 - Eyedroppers
 - Volumetric (1 mL, 5 mL, 10 mL)
- Plastic bags
- Quality assurance - SPCP
- Rain gear
- Reconstituted hard water
- Refractometer
- Respirators (cartridges)
- Rubber bands
- Ruler
- Safety glasses
- Safety manual
- Sample labels
- Scissors
- Screen bioassay cups
- Sea salts
- Separatory funnels & racks
- Silent giants
- Silicon sealant
- Solenoids (spare)
- Stainless steel tubing pieces
- Standard Methods Hand Book
- Stirring bars
- Stoppers (assorted)
- Submersible pumps:
 - lg, sm.
 - screens
- Super ice
- Tablets (paper)
- Tape:
 - Cellophane
 - Color coded
 - Electrician
 - Masking
 - Nylon
- Thermometers:
 - Dial
 - Glass
- Tools (lock/key)
- Tygon tubing, 1/8", 1/4", 3/8"
- Volumetric flasks (1000 mL, 2000 mL)
- WD40
- Weigh boats
- Wire tags

APPENDIX E

CHECK LISTS AND INFORMATION SHEETS

E.2. INFORMATION CHECK LIST FOR ON-SITE INDUSTRIAL
OR MUNICIPAL WASTE TOXICITY TEST

1. PRE-TRIP INFORMATION

Facility Name: _____

Address: _____

Phone number: _____

Plant Representative(s): _____

Names, Titles, Addresses of Company Personnel:

A. To Receive Correspondence: _____

B. To Receive Carbons: _____

Date of Notification Letter: _____

State Making Notification and Arrangements: _____

Special Plant Safety/Security Requirements for EPA Personnel to Observe:

Local Accommodation Recommendations: _____

Directions to Plant: _____

Availability of Power Hookups (three 20-amp, 110-V Circuits): _____

Distance from Power Source to Trailer: _____ (Feet)

Trailer Location: _____

Possible Source of Dilution Water: _____

Major Products: _____

Raw Materials: _____

Name of Receiving Water: _____

Schedule of Plant Operation (continuous, weekdays only, etc.): _____

Treatment Steps: _____

Treatment Level (BPT, BAT, etc.): _____

Wastewater Retention Time by Lagoon or Treatment Step:

<u>Lagoon Designation</u>	<u>Retention Hours</u>	<u>Time Days</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Wastewater Retention Time: _____ Hours; _____ Days

Retention Time Determination: _____ Calculated; _____ Actual

Calculation method: _____

Description of Wastewater Tap Point: _____

Description of Outfall (surface, submerged diffuser, etc.): _____

Description of Other Waste Disposal Alternatives in Use (spray irrigation, deepwell, municipal discharge, etc.): _____

2. ON-SITE INFORMATION

Wastewater General Characteristics:

Color: _____

Odor: _____

Solids: _____

Other: _____

Serial Number(s) of Discharge(s) to be Tested: _____

Description of Receiving Water: _____ Uniflow; _____ Tidal;
_____ Approximate amplitude, feet

Color: _____

Odor: _____

Solids: _____

Salinity: High tide _____; Low tide _____

Other: _____

7Q10: _____; Ave. flow _____

Description of Receiving Water Zone of Dilution: _____

Location and Description of Water Sampling Point(s): _____

Fresh: _____

Salt: _____

Dilution Waste General Characteristics:

Color: _____

Odor: _____

Solids: _____

Other: _____

Description of Toxicity Test Anomalies (plant production changes, power failure, rain events, etc.):

Duration		Anomaly
Time & Date	Time & Date	
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Description of Plant maintenance: _____

Attach: DIAGRAM OF WASTEWATER TREATMENT FACILITIES.

3. FOLLOW-UP INFORMATION

Date of follow-up letter: _____

Wastewater Flow (data supplied by discharger):

<u>Week Prior to Testing</u>		<u>Week of Testing</u>	
<u>Date</u>	<u>Discharge (MGD)</u>	<u>Date</u>	<u>Discharge (MGD)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Average Discharge (MGD): _____

Organisms Tested On-site or In-Lab:

<u>Species</u>	<u>Flow-thru test duration (h)</u>	<u>Static test duration (h)</u>	<u>Test Location</u>	<u>Dates</u>	<u>Results</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Possible Recommended Action as a Result of These Findings:

APPENDIX E

CHECK LISTS AND INFORMATION SHEETS

E.4. DILUTOR CALIBRATION FORM

Calibration Site: _____ Calibrator: _____
 Dilutor Number: _____ Date: _____

Effluent Concentration (%)	100.0	50.0	25.0	12.5	6.25	3.12	1.56
Dilution Water (mL)	0	500	750	876	938	969	984
Trial 1							
2							
3							
Average							
Effluent (mL)	1000	500	250	125	62	31	16
Trial 1							
2							
3							
Average							

Mixing Chamber (%): _____
 Wastewater (mL): _____
 Dilution Water (mL): _____

	Dilution Water	Effluent
Vol (mL)		
Trial 1		
2		
3		
Average		

Remarks:

